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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,198	07/29/2002	Robin Arthur Ellis Carr	P1370USW	2423
23347	7590	11/19/2004	EXAMINER	
DAVID J LEVY, CORPORATE INTELLECTUAL PROPERTY GLAXOSMITHKLINE FIVE MOORE DR., PO BOX 13398 RESEARCH TRIANGLE PARK, NC 27709-3398			SHIBUYA, MARK LANCE	
			ART UNIT	PAPER NUMBER
			1639	

DATE MAILED: 11/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/089,198

Applicant(s)

CARR ET AL.

Examiner

Mark L. Shibuya

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-65 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-65 are pending.

### *Election/Restrictions*

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-7, 23-28, 51-58 and 62, drawn to methods of analysis comprising a chemical construct comprising a solid support Q linked via a connecting group Y to a substrate R, Y having first and second cleavage sites, the second cleavage site being selectively cleavable to release R, and the first cleavage site being located between the second cleavage site and Q and being selectively cleavable to release a fragment  $Fr^u$  comprising R and some portion of Y, said portion containing a chromophore  $C^u$ .

Group II, claim(s) 8-15, 19, 35-39 and 43, drawn to chemical constructs comprising a chemical construct comprising a solid support Q linked via a connecting group Y to a substrate R, Y having first and second cleavage sites, the second cleavage site being selectively cleavable to release R, and the first cleavage site being located between the second cleavage site and Q and being selectively cleavable to release a fragment  $Fr^u$  comprising R and some portion of Y, said portion containing a chromophore  $C^u$ .

Group III, claim(s) 16, 21, 22, 40 and 45, drawn to chemical constructs comprising a chemical construct comprising a mass spectroscopic sensitising group.

Group IV, claim(s) 17, 18, 20, 33, 34, 41, 42, 44, drawn to chemical constructs comprising a characteristic signature to the mass spectrum of a fragment  $Fr^u$ .

Group V, claim(s) 30, 31, 46 and 47, drawn to methods of identifying a pharmaceutically useful substrates comprising preparing a library of chemical constructs.

Group VI, claim(s) 32-34 and 48-50, drawn to intermediate chemical constructs for use in preparing a chemical construct.

Group VII, claim(s) 59, 64 and 65, drawn to methods comprising chemical constructs comprising a chemical construct comprising a mass spectroscopic sensitising group.

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Group VIII, claim(s) 60, 61 and 63, drawn to methods comprising chemical constructs comprising a characteristic signature to the mass spectrum of a fragment  $Fr^u$ .

The inventions listed as Groups I-VIII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the technical feature linking the claims, chemical constructs comprising a chemical construct comprising a solid support Q linked via a connecting group Y to a substrate R, Y having first and second cleavage sites, the second cleavage site being selectively cleavable to release R, and the first cleavage site being located between the second cleavage site and Q and being selectively cleavable to release a fragment  $Fr^u$  comprising R and some portion of Y, said portion containing a chromophore  $C^u$  is known in the art, and so cannot be a special technical feature linking the claims. Zhang et al., US 6,251,583, at col. 5, line 10-col. 8, line 35, discloses a construct coupled to a resin solid substrate that comprises peptides linked through a cleavage site to a chromophore selected from the group consisting of nitroanilines, dinitroanilines, chloronitroanilines, nitrophenols, 4-phenylazophenol, and 7-hydroxy-4-methylcoumarin, wherein cleaving of a second cleavage site yields a construct comprising a polypeptide linked through a first cleavage site to a chromophore, as disclosed in Scheme 2, col. 7, line 23-col. 8, line 36. The prior art of Geysen et al., Chemistry & Biology, Vol. 3, pp. 679-688 (Aug. 1997), at p. 682, para 2, teach methods and compounds having distinct isotopes to provide a characteristic mass spectrum signature; and at p. p. 684, para 1-p. 685, para 1, teach compounds having a mass spectroscopic sensitizing group; therefore Groups VII and VIII do not have a special technical feature to link to the claims of the other Groups.

3. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

A) Spectrophotometric analysis by 1) ultra violet; 2) visible; or 3)

fluorescence.

B) Methods wherein the chromophore has a principal  $\log E_{\max}$  value: 1) at least 1.5 times than the principal  $\log E_{\max}$  of the substrate R; or 2) at least 2 times than the principal  $\log E_{\max}$  of the substrate R.

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- C) Methods wherein spectrophotometric analysis is carried out at 1) a wavelength corresponding to the principal  $E_{\max}$ ; or 2) a wavelength corresponding to a non-principal absorption band of the chromophore.
- D) Polycyclic aryl groups with a specified number of carbons.
- E) Polycyclic aryl groups with a specified number of ring carbons that are replaced by a heteroatom.
- F) Polycyclic aryl groups that contain specified heteroatom(s).
- G) Polycyclic aryl groups that are or contain 1) a specific polycyclic hydrocarbons; 2) a specific polycyclic heteroaryl group; or 3) a dansyl group.
- H) An amount of R on a solid support that is 1) no more than 10 nanomoles; 2) less than 5 nanomoles; or 3) less than 2 nanomoles.
- I) A plurality of solid supports in a number 1) not exceeding 20; 2) not exceeding 10; or 3) that is a single solid support.
- J) An intermediate chemical construct having the formula 1)  $Q-Y'$ ; 2)  $Q-L^1-A^P$ ; or 3)  $Q-L^1-N(Alk-C^u)-Alk-NH-X^1$ .

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

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Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner:

Species requirement: A) claims 1, 8, 10, and 23; B) claims 3, 4, 51, and 52; C) claims 8 and 9; D) claims 12, 36 and 55; E) claims 12, 36, and 55; F) claims 12, 36 and 55; G) claims 13-15, 37-39, 56-58; H) 23, 25 and 26; I) 23, 27, 28; J) 32-34 and 48-50.

The following claim(s) are generic: 1, 2, 8, 10, 11, 12, 23, 35, and 54.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: The species, including ultra violet, visible, or fluorescence,  $\log E_{\max}$ , polycyclic aryl groups, etc., are well known in the art and the chemical construct is known in the art, as disclosed in the aforementioned reference of Zhang et al., US 6,251,583, so that the technical features subject to the above species requirement, do not constitute a special technical feature linking the claims.

4. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Shibuya whose telephone number is (571) 272-0806. The examiner can normally be reached on M-F, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
PADMASHRI PONNALURI  
PRIMARY EXAMINER

Mark L. Shibuya  
Examiner  
Art Unit 1639

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